

**MAJOR COMPONENT - Quality Interventions**

**SUB-COMPONENT - Funds for Quality (LEP, Innovation, Guidance etc)**

**ACTIVITY MASTER - Project - Innovative Activities (Secondary & Sr. Secondary)**

**ACTIVITY - Connected Classrooms with Digital**

**1.Progress Report in r/o Connected Classrooms with Digital 2019-20**

66.ak	Connected Classrooms with Digital	1019	5186.43	-	-
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**2.Proposal for Connected Classrooms with Digital in AWP& B-2020-21**

Connected classroom is a “Technology Enabled” learning environment where student learning and interaction with the teacher and peers are fully supported through strategic use of ICT tools. This is a solution where a teacher can bring the day’s educational topic to life , engaging students and creating an environment that’s ripe for learning. A Connected Classroom integrates modern & trending technology resources into students' daily learning activities. Teachers provide opportunities for students to critically think, collaborate, and solve problems while building 21st century skills. Additionally, a Connected Classroom enhances the student/teacher relationship by allowing teachers the ability to provide instant feedback, opportunity for blended or flipped instruction, and access to learning outside of the traditional setting.

**Benefits of Technology Integration in Education:**

- Transforming the teaching and learning as educational technologies enhances the communication and collaboration among the teachers, students and administrators of the school
- Technology integration in education inspires students to become creators of their own learning by incorporating 21st century skills such as creativity and critical thinking
- Accelerated learning through differentiated instruction and a broader set of learning resources
- The teaching strategies using educational technology make learning more interactive, effective and interesting for students

#### Expected Outcomes:

- Different style of imparting knowledge: Incorporating technology tools in classroom environment will positively change the way of teaching. It provides an excellent opportunity to teachers to impart knowledge to students and at the same time it also simplifies the teaching -learning process for students and teachers.
- Improved thoughtful skills: It shifts the classroom experience to a more collaborative environment so that learners start thinking in more logical and improved way.
- Increased Student involvement: Students who normally do not raise their hands in class or the back-benchers, or somewhat if they are weak, now can take interest to learn something new as these modern age tools provide more understanding to them as all the senses are involved in the connected class rooms. By fostering discussions and developing new and out-of-the-box ideas, technology also helps improve the student- teacher bond.
- Updating with online information: Teachers can utilize various online information such as knowledge databases, online audio-video and worldwide resources to strengthen their lessons and classroom teaching. Students and learners can quickly access the wide range of powerful and resourceful tools in their respective fields and resources to conduct their academics.
- Wide connectivity in different fields and locations: Interactive technology tools and techniques allow for wide connectivity in various locations, making ideal linkages and collaboration and also provides distance learning environment.
- Interact and share: The interactive nature of technology tools provide learners an opportunity to share and participate in the teaching learning process. Classrooms with technology provide a platform for students and teachers to demonstrate their hold of the subject through touching, drawing, and writing. Every student has an opportunity to participate or contribute to the presentation and discussion.

- Teachers can experiment in pedagogy: As an academic professional, teachers learn more about how to effectively design and execute a class guided with technology. Whether it's a dramatic change, such as teaching with a blended or flipped-classroom, or just adopting a single tool for a specific project or term, he will learn something new in modern academia. Being well-versed in technology can also help build his credibility with students, and even with fellow colleagues.

### Requirements of Connected Classroom:

S. No.	Items	Minimum Specifications	Quantity
1	Interactive Board	Infrared & Touch Smart Board, Low Reflection 5 <sup>th</sup> X 4ft with writing board (white/green) of 5ft X 4ft.	1
2	Projection System	3000 ANSI Lumens DLP/LCD Short Throw Projector with all accessories and mount kit.	1
3	Personal Computer	CPU- Corei3 (6 <sup>th</sup> Gen)/1TB HDD/4GB DDR3 RAM/Windows 10 OS Optical Mouse and Keyboard.	1
4	Speakers	Amplified Stereo Speakers.	1
5	Tablets/ Laptops/ chromebooks	As per latest specifications	20
6	Charging Cart for 20 Nos Tablets	Input Voltage: AC 100-240 Volt, Output Voltage: DC 5V/2.1A, Max Load: 1000 W, Bays: Min 32, Rubber Coated Divides, Ventilation Holes each side, Power Distribution Outlet with Locking Doors.	1
7	Classroom Management Solution	Screen Broadcast, Student Demonstration, Camera Broadcast, Group Management, Group Teach & Chat, Monitor & Control, Remote Setting & Command, Quiz & Survey, File Distribution, User Application Policy & Controlling.	1
8	Wifi Router	Dual Band Wireless Gigabit Router.	1
9	Digital Content	Soft Copy of classroom contents for classes I to XII as per State Board.	1
10	Professional Development	Training of teachers including refresher for 2 <sup>nd</sup> and 3 <sup>rd</sup> year.	1

In this context it is worth mentioning that the items at Sl. No 1 to 4 are part of the project of Digital Board which had been sanctioned separately by the PAB and was implemented in 441 schools during the financial Year 2017-2018 and in 503 schools

during the year 2018-19. Accordingly PAB had approved the project of connected class in the FY 2018-19.

Department of Education, Govt of NCT of Delhi in the PAB 2018-19 got the approval of Rs 2802.25 Lacs for the proposal for setting up of Digital Board/ Smart Classroom at a cost of Rs 2.75 Lac per classroom in 1019 schools. Deptt signed an agreement with EDCIL (PSE of MHRD) the implementation agency for implementing Connected Classroom Project in 944 schools of Delhi. However, due to non availability of specific chipsets the delayed supply of 25% of approved devices (2/3 per school) is being received.

Considering the feedbacks received from various stake holders, the desired impact of the connected classroom can be achieved by increasing the number of personalized learning devices for students from 2/3 per school to 20.

Therefore the proposal is now for remaining devices approved in last PAB and more devices for FY 2019-20, so that there are 20 devices per school to make personalized learning possible.

Connected classroom project has been established in 55 Govt. schools by providing 40 student devices per school. These are being enthusiastically utilized by students and teachers.

A total outlay of Rs 5186.424 Lacs was approved at unit cost of 5.18972 Lac per school. However, no fund have been released by MHRD under this project during FY 2019-20.

### Financial implication

The following funds are required:

(Fin. In Lac)

<b>Connected Classrooms</b>			
<b>Proposed 2020-21</b>			
<b>District</b>	<b>Physical</b>	<b>Unit Cost (20 devices per school)</b>	<b>Fin.</b>
East	114	5.18972	591.6281
North East	130	5.18972	674.6636
North	63	5.18972	326.9524
North West A	107	5.18972	555.3
North West B	127	5.18972	659.0944
West A	58	5.18972	301.0038
West B	82	5.18972	425.557
South West A	41	5.18972	212.7785

South West B	93	5.18972	482.644
South	72	5.18972	373.6598
South East	92	5.18972	477.4542
New Delhi	4	5.18972	20.75888
Central	39	5.18972	202.3991
Grand Total	1022	5.18972	5303.894

Connected classroom has to be established in 967 schools @**Rs. 5.18972/-** per school. This would include 40 student devices per classroom so that one section is set up where each student operates a device for maximum learning.

It is hereby submitted to approve amount of **Rs. 5303.894/-** so that project will be implemented successfully.

### **3.Recommendation of Technical Support Group (TSG)**

#### **CURRENT PROPOSAL: SECONDARY**

(Amount in Lakhs)

Sr. No	Details	Approved Budget (Prev. Years)	Expenditure (Previous Year till 31st march)	% of Expenditure against Approval	Proposal			Recommendation		
					Phy.	Unit Cost	Fin.	Phy.	Unit Cost	Fin.
<b>Non-Recurring</b>										
1	Digital Hardware	6565.40	1820.10	27.72 %	131794	0.15	19769.1	0	0	0
2	SMART Classroom	0.00	0.00	0 %	78	1.1	85.8	4	1.1	4.4
	<b>Total Non-Recurring</b>	46.02	46.02				19854.9	4	1.1	<b>4.4</b>
<b>Recurring</b>										
1	Recurring Cost (ICT & Digital)	1482.04	1000.00	67.47 %	1022	5.18972	5303.89384	1106	0.904	1000.0

Initiatives) (New)									
<b>Total Recurring</b>	1482.04	1000.00				<b>5303.89</b>			<b>1000.0</b>

**Observation:-**

a) UT has proposed an amount of 19769.1 Lakh under Non- Recurring Head for Digital Hardware. The proposed amount is to distribute tablets 131794 students in class XII.

The proposal is to distribute tablets to the XII class students who are appearing board exams 2020-21 so that these students can also study from home using various educational apps available on the play store. There are approximate 131794 students in class XII. The approximate cost of the tablet is Rs 15,000/-

b) UT has proposed for an amount of Rs.85.8 Lakh under Non- Recurring head for Smartclassroom in 78 schools at a unit cost of 1.1 Lakh per school.

The proposal is to cover 78 left out schools in an initiative to digitalize all the Government schools. In 2019-20 an amount of Rs. 82.50 Lakh was approved for 75 schools under Project Innovation Secondary.

Out of 78 schools, 40 schools are already approved under ICT. As per UDISE+ 2018-19 facilities like ICT/Digital board etc. are already available in 32 schools and 2 schools are upper primary only schools. So 4 schools are found eligible.

c) UT has proposed an amount of Rs.5303.89 Lakh under recurring head for 1022 schools.

As per PMS there 1106 schools receiving recurring grant. These schools are approved in 2011-12 and functional from July 2015.

**Recommendation (Secondary):-**

- a) The proposal of UT for an amount of 19769.1 Lakh under Non- Recurring Head for Digital Hardware is not recommended as there is no provision of providing Tablets to students under ICT.
- b) An amount of Rs.4.4 Lakh is recommended under Non- Recurring head for establishment of Smart classroom in 4 eligible schools at a unit cost of Rs 1.1 Lakh.
- c) An amount of Rs. 1000.0 Lakh is recommended for 1106 schools as per the UC provided by UT.

#### **4.Costing Sheet of Plan Approval Board**

Sub Component	Activity Master	Level	Physical	Unit Cost	Financial (In lac)
ICT and Digital Initiatives	ICT and Digital Initiatives (upto Highest Class XII)	2020-21			
	Connected Classrooms (Spillover)		1022	5.18792	5302.05424